

Euler's Equations

- Recall the important relation between four numbers (j , e , π , -1) discovered by Euler:

$$e^{j\pi} = -1$$

$$e^{j\omega t} = \cos \omega t + j \sin \omega t$$

which leads to

$$\cos(\omega t) = \frac{(e^{j\omega t} + e^{-j\omega t})}{2}, \quad \sin(\omega t) = \frac{(e^{j\omega t} - e^{-j\omega t})}{2j}$$